Trichlorethylene Analgesia

Use for Urologic Procedures in the Office

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• Trichlorethylene inhalation for analgesia was used in 391 cases in which urologic procedures were carried out in the office. In the great majority of cases the patients had no significant pain or had only minor discomfort. Results were considered poor in less than 10 per cent of cases.

ALTHOUGH RELAXED, unapprehensive persons usually do not have a great deal of pain or distress when urethral or ureteral instrumentation is carried out with only local anesthesia or, occasionally, narcotic premedication, a procedure of this kind may be a physical and psychic ordeal for a patient who is anxious or emotional. Moreover, if considerable force has to be put upon instruments in order to overcome the resistance of tense musculature, the after-pain may be greater than it would be otherwise.

For this reason there is a tendency to put tense, apprehensive patients in the hospital for such instrumentation and to give Pentothal® or saddle block anesthesia, which of course adds considerably to the cost of what is often at most only a diagnostic procedure.

In light of these considerations, after Stephen[1] reported favorably in 1952 on the use of trichlorethylene by inhalation for analgesia in urologic instrumentation, the author began using the method—at first in hospital and then for treatments and diagnostic procedures in the office.

In a period of 14 months Trilene® was given by inhalation to 314 patients in whom 391 urologic procedures of various kinds were carried out in the office. Eight of the patients were children and five patients were more than 80 years of age. The age range was from 5 to 85 years. There was no selection of patients on the basis of cardiac or other reasons, except that the drug was not used for a few obviously debilitated patients.

Premedication was used whenever apprehensiveness or a more than ordinarily painful procedure was anticipated. For the most part morphine and Demerol® were used for this purpose, occasionally with the addition of atropine, although later atropine was found to be unnecessary and was discontinued. Local anesthesia was also used regularly in the first few weeks of the present series, but later only for an occasional repeated dilatation of severe urethral stricture and in other procedures in which it was found that Trilene did not give sufficient analgesia.

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METHOD OF ADMINISTRATION

The Duke Trilene Inhaler was used in every case. It was found best to give the patient two to three and sometimes five minutes of Trilene inhalation before any instrumentation was begun. The most reliable indication of beginning analgesia was a feeling of tingling in the extremities. The patient was asked to say when the tingling began, and instrumentation was started as soon as it was felt. Most patients tolerated full strength of the Trilene Inhaler after two or three breaths with a setting of somewhere between minimal and half way. Ordinarily the inhaler was set at maximum as soon as that amount could be tolerated. Inhalation was begun at about the time the patient was draped and usually analgesia was quite effective by the time the operating table was adjusted and the instruments were ready for introduction.

RESULTS

Results were as follows:

	Number of Cases
Adults:	
Excellent (no significant pain)	242
Good (relief with minor discomfort)	98
Poor (slight or no analgesia and/or no cooperation)	37
No remark	6
Children:	
Excellent	6
Good	2

INCIDENTAL OBSERVATIONS

There were a number of side effects that bear mention (Table 1).

Nausea, which sometimes occurred with repeated administration of Trilene (and in a few cases at the very beginning of analgesia) was prevented by giv-

TABLE 1.—*Side effects noted in association with administration of Trilene for analgesia*

	No. Cases
Nausea	5
Auditory hallucinations	5
Visual hallucinations	1
Agitation with hallucinations	1
Tactile hallucinations	1
Agitation	3
Hilarity	1
Screamed (but felt no pain)	3
Mild tachycardia (subjective and objective)	2
Weeping	1

ing 50 mg. of Dramamine® intramuscularly some 15 or 20 minutes before inhalation of Trilene was begun.

Agitation, moaning and groaning were noted quite frequently, but this did not necessarily mean that the drug was not taking effect, for most of the patients in whom these phenomena were observed said later that they felt little or no pain and that they did not remember making any commotion during the procedure.

Two patients had facial nerve tingling the evening following the use of Trilene, but the sensation had disappeared by the following morning. (This phenomenon recalls a passing mention, in medical school days, of trichlorethylene as a "specific" for the pain of trigeminal neuralgia.)

Occasionally in the present series large male chronic alcoholics became quite wild and pugnacious after four or five minutes of Trilene inhalation.

Unless patients who are given Trilene have someone to escort them from the office after the procedure is finished, particularly if they are to leave by automobile, they should wait 15 or 20 minutes for the effect of the drug to wear off. During the last month of the period here reported upon, ambulatory patients who had had premedication with morphine or Demerol were given Nalline® just before they left the office, which seemed to neutralize the effect of the narcotics. These patients were detained in the waiting room for some 15 to 20 minutes after the administration of Nalline.

It was not until the last three or four months of the period covered by the present series that Trilene was used for children. Cooperation was never obtained and the face mask had to be held in place until the child had taken 10 or 12 breaths. Use of a small mask was helpful. Usually the analgesia plus the distraction of the mask permitted successful manipulation. Advising children to "blow it out" was quite helpful. Most of the children were completely free of the effects of the drug within a minute or two after completion of the procedure.

The analgesia of Trilene was not relied upon to justify excessively painful procedures, and manipulation was always done gently in order to prevent undue pain after the analgesic effect wore off. Ordinarily the smallest instruments that would serve were used. No. 5 catheters were used routinely for ureteral catheterization unless dilatation was to be done. In cases in which instrumentation was prolonged, anesthetic oil was instilled into the bladder upon completion of the procedure.

As the waxolene blue dye used to identify Trilene is extremely hard to remove from fabrics, it is well to have patients remove at least their outer clothing and put on a washable gown lest a dribbling inhaler cause costly stains. (An inhaler of a new type, Model M, is reported to overcome this difficulty.)

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REFERENCE

1. Stephen, D. R.: Proceedings of the Los Angeles Urological Postgraduate Convention, Nov. 20, 1952.